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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/593,593	06/13/2000	Mark A. Lemkin	IMIN-01005US1	5628

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EXAMINER

KWOK, HELEN C

ART UNIT PAPER NUMBER

2856

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/593,593

Applicant(s)

Lemkin et al.

Examiner

H. Kwok

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 2, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-20 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 4-10, 12 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 5,992,233 (Clark) or U.S. Patent 6,250,156 (Seshia et al.) or U.S. Patent 6,296,779 (Clark et al.)

With regards to claims 1 and 4, the references, Clark, Seshia et al., and Clark et al., discloses a gyroscopic sensor comprising, as illustrated in Figures 6-10, a substrate 24; a mass 22; a first finger set 38 comprising two or more first fingers extends parallel to a first displacement axis; a second finger set 74 or 76 comprising at least one second finger extends parallel to the first displacement axis such that the one second finger terminates between the two first fingers wherein the one second finger is substantially closer to one of the two first fingers

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(as observed in the figure, the distance formed by the two of the first finger 38 and one of the second fingers 74 or 76 are not equal); and an electrical circuit provides a position-dependent electrostatic force having a magnitude varying in proportion to displacement along the first displacement axis. (See, column 6, line 38 to column 14, line 24 of Clark; column 6, line 41 to column 12, line 60 of Seshia et al.; column 6, line 26 to column 12, line 43 of Clark et al.).

With regards to claims 5-8, 10 and 12, the references further disclose the circuit elements as presently claims, like an oscillation feedback loop, capacitive bridge, position sense interface, quadrature detection circuit with a feedback connection. (See, Figure 9 of the references).

With regards to claim 9, the references further disclose a third finger set and a fourth finger set to form a second capacitor, as observed in the figures.

With regards to claim 20, the claim is commensurate in scope with claim 1, 4-10, 12 and are rejected for the same reasons as set forth above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 2-3 and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over either U.S. Patent 5,992,233 (Clark) or U.S. Patent 6,250,156 (Seshia et al.) or U.S. Patent 6,296,779 (Clark et al.) in view of U.S. Patent 6,230,563 (Clark et al.).

With regards to claims 2-3, the references do disclose dimensions and parameters for the first fingers and the second fingers; however, do not explicitly disclose the specific parameter and dimensions of the first and second finger sets as claimed. Clark et al. ('563) discloses a dual mass vibratory rate gyroscope with quadrature error correction capability comprising, as illustrated in Figure 1-3, 11-14, teaches that the length to width ration of the finger sets is 10 to 1, as disclose in column 5, lines 51-61. To have set such characteristics as in these claims is considered to have been a matter of design choice that would have been obvious to an artisan of ordinary skill in the art at the time of invention to recognize the advantages and desirability to form beams that are compliant to bending but relative stiff to compression and extension. (See, column 5, lines 61-66 of Clark et al.).

With regards to claims 13-19, the claims are commensurate in scope with claims 4-10 and 20 and are rejected for the same reasons as set forth above. Furthermore, Clark et al. ('563) suggests a second proof mass disposed about the substrate. (See, Figures 12-14). It would have been obvious to a person of ordinary skill at the time of invention to have readily recognize the advantages and desirability of employing a second proof mass as suggested by Clark et al. ('563) to the apparatus of the references, Clark, Seshia et al., Clark et al. ('779), to enable cancellation of differential quadrature error.

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Response to Amendment


5. Applicant's arguments with respect to claims 1-10 and 12-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. .

The reference cited is related to a semiconductor physical quantity sensor.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen Kwok whose telephone number is (703) 308-8149.


Helen C. Kwok
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hck
March 23, 2003